

Appl. No. 10/058,540
Amdt. dated December 13, 2004
Reply to Office Action of October 15, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A closed suction system adapted to be attached to a ventilator constantly delivering positive pressure air into a patient's airway and having a suction tube, a source of suction and a suction control valve, said suction control valve comprising: a housing having an upper surface and a first central linear passageway extending through said housing and in fluid flow communications at one end thereof with a suction tube and with a suction source at the other end thereof, said housing having a second passageway opening at said upper surface and transversing said first central linear passageway, a manually depressible and releasable plunger operable within said second passageway wherein said plunger includes a closed piston portion and an open, unobstructed, straight through lumen portion, said piston including ~~outer surfaces adapted for~~ outwardly expanding sidewalls forming a direct contact sealing engagement with said second passageway, said piston being normally positioned within said second passageway to a non-suction applied position where said piston portion is positioned across said first

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passageway to prevent any loss of positive pressure air leakage past the piston to atmosphere so as to form a leak 100% positive air pressure proof and airtight slideable seal to hermetically seal off fluid and positive pressure air flow communication between said suction tube and ~~said source of suction atmosphere~~, said plunger further manually operable from said upper surface and depressible within said second passageway to a suction applied position where said open, unobstructed, straight through lumen portion is positioned in said first passageway and wherein there is unobstructed fluid and air flow communication between said suction tube and said source of suction, said plunger automatically returnable to its non-suction applied ~~leak proof and airtight hermetically~~ 100% positive air pressure proof and airtight slideable sealed off position upon manual release of said plunger.

Claim 2 (Previously presented): The suction control valve of claim 1 wherein the valve includes a means for preventing inadvertent depression of the plunger.

Claim 3 (Canceled)

Claim 4 (Previously presented): The suction control valve of claim 1 wherein said plunger includes a high flow cross lumen which permits

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unobstructed fluid flow communication between said suction tube and said source of suction when said plunger is manually depressed.

Claim 5 (Currently amended): The suction system of claim 1 including a suction catheter and an actuator portion as part of the plunger, said first central linear passageway in fluid flow communication at one end with a suction catheter and at its other end with a suction source, said central passageway permitting unobstructed fluid and air flow between the suction catheter and the suction source, said plunger fitted within and hermetically sealed within the second passageway and the plunger depressably and releasably operable by the actuator within the second passageway wherein the plunger is normally positioned to a non-suction applied non-actuator depressed mode such that said unobstructed, straight through fluid flow cross lumen is sealed by direct contact with the walls of the second passageway to prevent ~~fluid and air flow communication between the suction tube and the~~ any leakage of fluid and positive pressure air flow between the suction tube and the suction source when the closed system remains attached to a suction source, said plunger further operable within the second passageway wherein the plunger is positioned to a suction applied actuator depressed mode such that said unobstructed, straight through fluid flow cross lumen is unsealed and positioned

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within the first passageway to a fully open position to permit complete unobstructed fluid and air flow communication between the suction tube and the suction source.

Claim 6 (Previously presented): The suction control valve of claim 4 wherein the valve includes a means for preventing inadvertent depression of the plunger.

Claim 7 (Previously presented): The suction catheter system of claim 1 wherein the system is a closed tracheal suction system.

Claim 8 (Currently amended): A closed respiratory suction catheter system for suction secretions from a patient comprising: a frontal manifold configured for delivery of positive pressure ventilator air to a patient, a rearward suction control valve adapted for attachment to a source of suction, a suction catheter assembly including a suction catheter disposed between and operatively connecting the frontal manifold and the rearward suction control valve, said suction control valve in fluid and air flow communication at one end thereof with the suction catheter and at its other end with the source of suction, said suction control valve comprising: a housing having an upper surface and a first central linear passageway extending through said housing and in fluid flow communications at one end thereof with a suction tube and with a suction source

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at the other end thereof, said housing having a second passageway opening at said upper surfaces and transversing said first central linear passageway, a manually depressible and releasable plunger operable within said second passageway wherein said plunger includes a closed piston portion and an unobstructed, straight through open lumen portion, said piston including ~~outer surfaces adapted for~~ outwardly expanding sidewalls forming a direct contact sealing engagement with said second passageway, said piston being normally positioned within said second passageway to a non-suction applied position where said piston portion is positioned across said first passageway ~~so as to form a leak~~ to prevent any loss of positive pressure air leakage past the piston to atmosphere and so as to form a 100% positive air pressure proof and airtight slideable seal to hermetically seal off fluid and air flow communication between said suction tube and said source of suction, said plunger further manually operable from said upper surface and depressible within said second passageway to a suction applied position where said unobstructed, straight through open lumen portion is positioned in said first passageway and wherein there is unobstructed fluid and air flow communication between said suction tube and said source of suction, said plunger automatically returnable to its non-

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suction applied leak 100% positive air pressure proof and airtight slideable hermetically sealed off position upon manual release of said plunger.

Claim 9 (Previously presented): The respiratory suction system of claim 8 including a means for cleaning the catheter.

Claim 10 (Previously presented): The respiratory suction system of claim 8 wherein the frontal manifold is fixedly connected to a suction catheter assembly.

Claim 11 (Previously presented): The respiratory suction system of claim 8 wherein the suction catheter assembly is disconnectable with the frontal manifold.

Claims 12-46 (Canceled)

Claim 47 (Previously presented): A suction catheter system for suctioning secretions from a patient comprising; a connector having an inner air passage with frontal and rearward ends and the connector configured for delivery of ventilator air to and from a patient, a catheter isolator seal disposed at the rearward end of the connector inner air passage, a catheter cleaning chamber including a catheter cleaning flush port located in front of the catheter isolator seal, the isolator seal normally biased to a closed position; a suction catheter assembly associated with both the catheter isolator seal and the catheter cleaning

chamber, a catheter assembly having a catheter with a distal tip and a proximal end, said catheter advanceable and retractable through the catheter isolator seal, the catheter isolator seal operable to an open position solely by direct contact and manual advancement of the distal tip of the catheter with the isolator seal.

Claim 48 (Previously presented): The system of Claim 47 wherein the isolator seal is normally biased to a sealed position to substantially prevent the loss of ventilator air out the seal.

Claim 49 (Previously presented): The system of Claim 47 wherein the cleaning chamber includes a catheter wiper.

Claim 50 (Previously presented): The system of Claim 47 wherein the catheter isolator seal is a resiliently molded component.

Claim 51 (Previously presented): The system of Claim 47 including a catheter isolation tunnel located behind the catheter isolator seal.

Claim 52 (Previously presented): The system of Claim 47 wherein the catheter assembly is fixedly attached to both the catheter isolator seal and the catheter cleaning chamber.

Claim 53 (Previously presented): The system of Claim 47 wherein the catheter assembly is disconnectable from the catheter isolator seal and the catheter cleaning chamber.

Claim 54 (Previously presented): The system of Claim 47 wherein the catheter cleaning flush port permits the instillation of fluid.

Claim 55 (Previously presented): The system of Claim 47 wherein the catheter cleaning port includes a one-way valve.

Claim 56 (Previously presented): The system of Claim 47 wherein the catheter isolator seal has a slit opening normally biased to a closed position.

Claim 57 (Previously presented): The system of Claim 47 wherein the catheter is enclosed in a collapsible sleeve.

Claim 58 (Previously presented): The system of Claim 47 wherein the catheter is connectable to a source of suction.

Claim 59 (Previously presented): The system of Claim 47 wherein the catheter is attached to a suction control valve.

Claim 60 (Previously presented): A suction catheter system for suctioning secretions from a patient comprising; a connector having front and rear ends and configured for delivery of ventilator air to and from a patient, a catheter isolator wiper seal disposed at the rear end of the connector, a catheter cleaning chamber including a catheter cleaning flush port located in front of the catheter isolator wiper seal, the catheter isolator wiper seal normally biased to a closed position, a suction catheter assembly operably associated with both the

catheter isolator wiper seal and the catheter cleaning chamber, said suction catheter assembly having a catheter with a distal tip, said catheter advanceable and retractable through the catheter isolator wiper seal, the catheter isolator wiper seal operable to an open position solely by direct contact and manual advancement of the distal tip of the catheter with the catheter wiper seal.

Claim 61 (Previously presented): The system of Claim 60 wherein a catheter isolation tunnel is positioned behind the catheter isolator wiper seal.

Claim 62 (Previously presented): The system of Claim 60 wherein the suction catheter system is a closed tracheal suction system.

Claim 63 (Previously presented): The system of Claim 60 wherein the catheter isolator seal and the catheter wiper function as one component.

Claim 64 (Previously presented): The system of Claim 60 wherein the catheter isolator seal and the catheter wiper function as separate components.

Claim 65 (Previously presented): The system of Claim 64 wherein the catheter wiper is positioned in front of the catheter isolator seal.

Claim 66 (Previously presented): A suction catheter system for removing secretions from a patient's airway comprising; a catheter assembly including an isolation tunnel and having a catheter with a distal tip and proximal end, the distal tip normally positioned within said isolation tunnel and the

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proximal end of the catheter connectable to an applied suction source, a catheter isolator wiper seal located in front of the catheter isolation tunnel and a catheter cleaning chamber including a catheter cleaning flush port located in front of the catheter isolator wiper seal, a connector for delivery of ventilator air to and from a patient located in front of the catheter cleaning chamber and catheter cleaning flush port, the catheter distal tip advanceable and retractable into a patient's airway through the catheter isolator wiper seal from its normal position within the isolation tunnel, where the catheter is wiped of secretions upon retraction back through the catheter isolator wiper seal and said secretions accumulate in the catheter cleaning chamber located in front of the catheter isolator wiper seal, and wherein said accumulated secretions are removed from the catheter cleaning chamber by the instillation of catheter flush fluid through the port and into the catheter cleaning chamber during the application of suction through the catheter when the catheter tip is positioned within the catheter cleaning chamber.